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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/517,323	03/02/2000	Claude Barbeau	11924-10US PM/J1	5040

7590 12/21/2001
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EXAMINER

WACHTEL, ALEXIS A

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 12/21/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-5

Office Action Summary	Application No.	Applicant(s)	
	09/517,323	BARBEAU ET AL.	
	Examiner	Art Unit	
	Alexis Wachtel	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Objections

1.The use of the trademarks NOMEX ® and KEVLAR ® have been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4.The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5.Claims 1, 3,4,6,11,14,15,18-20,22-25,28,29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2,5,7,8,9,10,12,13,16,17,21,26,27,30,31 are rejected as being dependent on rejected independent claim.

6. With regards to claim 1, Applicant does not clearly describe what is meant by term "different." In what ways are Applicants yarns different? Are they made of different materials, is the yarn construction different in each yarn? Do yarns have different cross sections?

7. With regards to claim 15, Applicant does not clearly describe what is meant by phrase "yarn type." Examiner assumes that said phrase refers to a yarn of a third material

8. With regards to claims 3,4,6,11,14,18,19,20,22,23,24,25,29, Applicant does not clearly describe what is meant by phrase "fiber type." Does Applicant mean to say that, for example, an aramid type fiber does not necessarily have to be an aramid, but rather exhibit some of its properties to be an aramid "fiber type"? Examiner assumes phrase "fiber type" is a direct and specific reference to the specific chemical material of the fiber.

9. Claim 4 recites the limitation "one fiber type". There is insufficient antecedent basis for this limitation in the claim. Examiner assumes limitation refers to the "first fiber type" from claim 3.

10. Claim 18-20 recite the limitation "The first fiber type". There is insufficient antecedent basis for this limitation in the claim. Examiner assumes limitation refers to the specific chemical material a fiber can be made of.

11. Claim 14 contains the trademark/trade names NOMEX[®] and KEVLAR[®]. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218

USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name are used to identify/describe poly(m-phenyleneisophthalamide) and poly(p-phenyleneisophthalamide) and, accordingly, the identification/description is indefinite.

12. With regards to claim 28, term "more dyeable", there is no common and effective method for testing how this property may be more qualitatively present in one yarn over another while accounting for the effects of dye type, fiber type and dye processing conditions.

13. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

14. Claim 15 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not state how an additional yarn type would be incorporated in Applicant's fabric. Will yarn type be a warp or weft yarn type? Will it be a connecting yarn in the double weave? An insert in knit? Could it be a weft/warp yarn which alternates with another weft/warp yarn?

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 1,7,8,13,14 rejected under 35 U.S.C. 102(b) as being anticipated by US 5,928,971 to Ellis et al.

Ellis et al discloses a textile for a thermal barrier of a firefighter's garment made from a fabric woven from fire resistant yarns. The yarns are woven into a twill pattern with, preferably, filament yarns in the filling direction and spun yarns in the warp direction. (Abstract, Lines 1-5). The fabric could also have filament yarns in the warp direction and spun yarns in the filling direction (Col 4, lines 16-17). The yarns could be woven into a variety of twill patterns or into a satin or sateen weave. The important aspect of the weave is that more filament yarns than spun yarns are exposed on one side of the fabric (Col 4, lines 16-21). The filament yarns used in the said textile is preferably made of 100% poly(m-phenylenedisophthalamide or NOMEX[®] but can be made of other flame resistant materials such as other aramids (KEVLAR[®]), polynosic rayon, f-polybenzimidazole, polybenzoxazole, melamine or others (Col 4, lines 22-32). The spun yarns are preferably made of 100% poly(m-phenyleneisophthalamide) or of the same materials as set forth by for the multifilament yarn (Col 4, lines 37-43).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 2-6,11-12,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,928,971 to Ellis et al in view of US 4,865,906 to Smith, Jr.

The features of Ellis et al have been set forth above.

Ellis et al fails to teach a fire resistant fabric that is a knit, and in particular a warp knit wherein a Raschel Machine produces the specific knit.

Smith, Jr. is directed to flame retardant yarn blends and teaches that fire resistant fiber blends (Col 2, lines 33-37) can be knitted (Col 2, lines 60-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have made Ellis et al's fabric as a warp knit rather than a woven fabric since it is known in the art that knits have desirable stretch properties.

19. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,928,971 to Ellis et al in view of US 6,297,178 to Barbeau et al.

The features of Ellis et al. have been set forth above.

Ellis et al fails to teach an additional yarn type incorporated into his fabric.

Berbnner et al is directed to flameproof fabrics and teaches a flame proof fabric comprising from 4.9% to 95% by weight of melamine resin fibers, from 0 to

90.1% by weight of flameproof fibers selected from the group consisting of aramid fibers, carbon fibers, glass fibers and other fibers (Col 1, lines 42-48). In addition to said fibers, the flame proof fabric can further include from about 4.9 to 95% by weight of normal-flammable fabric, for example wool, cotton, polyamide fibers, polyester fibers and viscose. The amount used must not adversely affect the flame retardancy of the fabric.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated wool, cotton, polyamide fibers, polyester fibers or viscose fibers as the additional yarn type into Ellis et al's fabric, motivated by the desire to produce a fabric having increased resiliency, improved hand, drape, as well as greater fire resistance.

20. Claims 9,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,928,971 to Ellis et al.

The features of Ellis et al have been set forth above.

With regards to claim 9, Ellis et al fails to teach one kind of yarn as exposed to more than about 85% on one side of the fabric, wherein the other kind of yarn is exposed on less than about 15% of said one side. With regards to claim 10, Ellis et al fails to teach the second kind of yarn as exposed to more than about 75% on the opposite side of the fabric, wherein the first kind of yarn is exposed on less than about 25% of said opposite side of the fabric.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the above specified values motivated by the desire to have yarns suitable for a specific purpose greatly exposed to an

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environment where their designed for performance characteristics are most greatly stressed. The choice of number of floats in twill, satin or sateen would determine these ratios. It is has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

21. Claim 17,26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,928,971 to Ellis et al in view of US 5,362,281 to Dutton et al.

The features of Ellis et al have been set forth above.

Ellis et al fails to teach a double woven fabric.

Dutton et al is directed to reinforced fabrics and teaches that a type of wear resistant fabric is of the double woven variety, having two sets of warp yarns and two sets of weft yarns that are tied together in a single layer (Abstract, Lines 2-5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have made use of a double woven fabric rather than a single woven fabric in Ellis et al's fabric, motivated by the desire to enhance its durability (Abstract, lines 2-3).

22. Claims 18-25,27,29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,928,971 to Ellis et al in view of US 5,362,281 to Dutton et al futher in view of "Introductory Textile Science Fifth Edition" to Joseph.

The features of Ellis et al have been set forth above.

Ellis et al fails to teach a double woven fabric wherein the interlacing comes from the weft or warp yarns, or an interlacing common to both upper and lower surfaces of the double woven fabric.

Joseph is directed to textile science and teaches, with regards to claims 18-21 and 26, that double woven fabrics are made using two sets of warp and two of filling yarns without a tie or binder set. In this construction, the interlacing process is controlled so that one set of warp and one set of filling yarns form one fabric layer and the other set forms the second layer; these may move from one fabric layer to the other in such a way that the fabrics interlock but in some locations remain distinct (pp 235, far right column, last paragraph, pp 236, far left column, lines 1-5).

With regards to claims 22-25, the first and second yarns are to be of different fiber types. Ellis et al has set forth above that the yarns comprising his fabric can be of different "fiber types". Additionally, Ellis et al teaches that one yarn is a multifilament, and the second is a spun yarn.

23. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,928,971 to Ellis et al.

The features of Ellis et al have been set forth above.

Ellis et al fails to teach a fire resistant fabric wherein a first yarn different than a second yarn, has a greater resistance to UV degradation, fibrillation and more easily dyeable than said second yarn.


It would have been obvious to one of ordinary skill in the art at the time the invention was made to have chosen first yarns made of a material as disclosed by Ellis et al that is more resistant to UV degradation and fibrillation motivated by the desire to have a fabric that is resilient under abrasive conditions and able to survive damaging effects of UV radiation, so that the fabric would last longer, and

thus not have to be replaced as often. In addition it would have been obvious to apply a finish to said first yarn so as to provide it with properties lending to easier dyeability, resistance to UV degradation and fibrillation motivated by the desire to use textile materials superior for the purpose of fire resistance and, via a finish, impart, to the textile material, properties that would give it additional resilient features.

24. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Alexis Wachtel, whose number is (703)-306-0320. The Examiner can normally be reached Mondays-Fridays from 9:30am to 5:30pm.

If attempts to reach the Examiner by telephone are unsuccessful and the matter is urgent, the Examiner's supervisor, Mr. Terrel Morris, can be reached at (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872- 9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


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